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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/809,896 | 03/26/2004 | Yoshio Takasu | 70728-011 | 7805 |
| <div>7590 10/02/2008 MCDERMOTT, WILL & EMERY 600 13th Street, N.W. WASHINGTON, DC 20005-3096</div> | | | | |
| EXAMINER | | | | |
| ZIMMER, ANTHONY J | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1793 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 10/02/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/809,896

Applicant(s)

TAKASU ET AL.

Examiner

ANTHONY J. ZIMMER

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 and 6-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-7 is/are rejected.
- 7) ☒ Claim(s) 3 and 8-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Both of the claims recite the limitation, "separated particles." The specification as originally filed does not support this limitation. Though the specification supports the formation of particles (see instant [0058] and [0188] in the PG PUB), same does not support the limitation that the particles are separated.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7 recite the limitations, "separated particles." "Separated" is a relative term that could have many different meanings. For instance, the term could

define the particles as non-agglomerated or could simply mean that the particles have distinct boundaries. The specification does not define "separated," and thus one of ordinary skill in the art would not be reasonably apprised of the scope of either of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by Takasu et al.

In regard to claim 1, Takasu et al describes a process for making a layered ruthenium oxide compound by melting ruthenium oxide and potassium hydroxide at 600°C, see section 3.5. Although Takasu does not explicitly mention a ruthenic acid nanosheet having a thickness of 1 nm or smaller, it necessarily flows from the taught process and one of ordinary skill in the art would have envisaged at the time of the invention that the product of the process of Takasu contains a ruthenic acid nanosheet with a thickness of less than 1 nm.

In claim 9 (referring to claim 7 part (a)) applicant describes an identical process to that of Takasu in which an alkali metal hydroxide and ruthenium oxide are melted at

500°C - 700°C to form a ruthenic acid nanosheet with a thickness of less than 1 nm.

Hereafter, this process as described in claim 7 part (a) and further limited in claim 9 will be referred to as the “nanosheet forming process.” Takasu teaches that the compound formed in the process described in Takasu has a layered structure that has not yet been well characterized, see section 3.5. However, a product of the nanosheet forming process is characterized on page 20-21 in the instant application and is found to have ruthenium oxide nanosheet(s) with a thickness of less than 1 nm, see page 21 lines 14-16 and claim 9. Since the process of Takasu is identical to the nanosheet forming process instantly disclosed, one of ordinary skill in the art at the time of the invention would have envisaged that Takasu necessarily produces a product containing ruthenic acid nanosheets with a thickness of less than 1 nm.

Furthermore, Takasu describes the product of the nanosheet forming process having a formula of K_xRuO_y or H_xRuO_y which is the same formula as $[RuO_{2+0.5x}]^{x-}$ in an alternative representation, see section 3.5. Also, since the process of Takasu is identical to that of the instantly disclosed nanosheet forming process, one of ordinary skill in the art would have envisaged at the time of the invention that the nanosheets formed in Takasu would necessarily have the same chemical formula.

Takasu teaches a process of adding the product described above (a layered ruthenic acid compound) to an aqueous solution of HCl (a solvent) which would form a colloidal ruthenic acid compound, see section 3.5. Takasu teaches that particles are formed. See lines 4-5 of the right-hand column on page 4140. Particles by definition are

separated as they have boundaries that distinguish them from other particles, thus this limitation of the claim is anticipated by Takasu.

Claim 6 is drawn to an electrochemical device having an electrode comprising the ruthenic acid nanosheet in accordance with claim 1. Takasu teaches making an electrode from H_xRuO_y , (a compound containing the ruthenic acid nanosheets in the form of separated particles as described above) by coating the compound on a titanium sheet with a PTFE dispersion, thereby forming an electrochemical device having an electrode, see section 3.5.

Claims 3 and 8-12 are objected to as being dependent upon a rejected base claim.

Response to Arguments

Applicant's arguments in regard to claims 1 and 6, filed 6/30/2008 have been fully considered but they are not persuasive.

Applicant argues that the Takasu reference does not teach separated particles.

However, Takasu teaches forming particles which are by definition separated as they have boundaries that distinguish them from other particles. See the 102 rejection above.

In regard to claim 3, the arguments were found persuasive; however, the claim is dependent on a rejected claim that contains new matter and is thus objected to by the examiner.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. ZIMMER whose telephone number is (571)270-3591. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ajz

/Steven Bos/
Primary Examiner, Art Unit 1793